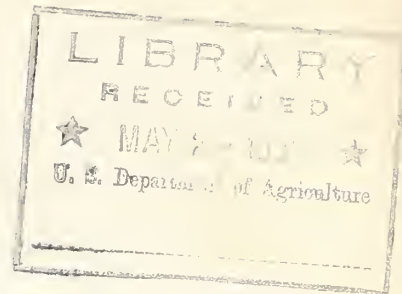


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6527
Bi-1274
Apr. '33

United States Department of Agriculture
Bureau of Biological Survey



RAISING DEER IN CAPTIVITY

By Vernon Bailey, Chief Field Naturalist
Division of Biological Investigations

Before taking steps to keep deer in captivity, one should obtain information on game laws from the appropriate State game commission or conservation department. The game laws of some States provide for licensing the raising of deer in captivity, and for regulating the sale of the venison and hides. The market for live deer and for venison depends largely on location and on facilities for reaching prospective purchasers. There should be a good demand for prime venison at fair prices in most of the larger cities.

WHITE-TAILED DEER (*Odocoileus virginianus* and varieties) thrive in captivity in fenced enclosures under favorable conditions. A combination stock-and-poultry fence, about 8 feet high, of 2- to 4-inch-mesh light woven wire, is generally adequate to confine deer and exclude dogs. On side-hills or where there is deep snow, one or two smooth strands may be added above the woven wire. Rough ground is preferable for deer, with plenty of shade, brush, and timber,, and some swamps and streams or springs. For year-long range each deer will require 20 to 30 acres of ordinary wild land, but on rich land with dense vegetation it may thrive on half this area. When provided with cultivated forage, clover, alfalfa, soybeans, cowpeas, peanuts, and grains, the animals can be kept on 1 to 2 acres per deer.

Deer eat little grass, except early in spring, and do not thrive upon it. They subsist largely by browsing, but in summer they eat also a great variety of plants, including clovers, dandelions, pigweeds, knotgrass, and many other weeds, as well as most grains, garden vegetables, and fruits. Late in summer and in fall they fatten for the winter on such rich food as seeds, grains, peas, beans, soybeans, peanuts, beechnuts, hazelnuts, pecans, and acorns.

In winter they browse upon leaves, buds, twigs, bark, and seeds of a great variety of trees, bushes, and herbaceous plants, and where snow is deep gather in swamps and thickets, where they trample trails and dig for moss and other ground vegetation. Supplemental winter food can be provided by felling aspens, birches, alders, maples, and other trees of little value that afford buds and browse, or by planting hemlocks and cedars for the evergreen foliage. Where artificial winter feeding is necessary deer should have clover or alfalfa hay, pea or bean straw, and a small ration of unthreshed grain. They require a variety of food, plenty of good water, and some salt at all times of year.

The stock of deer should be maintained in the proportion of one buck to about four or five does. Breeding should be only from choice bucks. Females breed in their second autumn, and when two years old have their first young, usually only one fawn. Later young are almost always twins. Since they breed younger, and produce twins, deer increase about twice as fast as cattle. Mating is mainly in October and November, and the young are born in May or June. They are weaned at about six months of age, and when possible remain with the doe through the first winter.

Bucks shed their single-beamed antlers in midwinter, usually in January or February, and new antlers start within a few weeks. By August these are full grown and hardened, and in September the velvet is rubbed off and the points are polished for fighting. During the mating season the bucks are dangerous and should be avoided.

Venison is at its best in fall or early winter, when the deer are fat and in prime condition. In the North, with cold weather and freezing nights, the meat is easily kept and handled for market, and is in greatest demand during or after the hunting season. It keeps well in cold storage, however, and can be sold under suitable regulation at any season. In fall and early winter the skins are also at their best and have the greatest value for buckskin.

The native deer have the advantage in any part of the country of being acclimated and adapted to local food and cover, and would seem to be the best with which to start breeding. If larger or more vigorous animals are desired, the stock might be improved by introducing bucks from other localities.

The smallest white-tailed deer in the United States are from the Florida Keys and southern Arizona and New Mexico. The Virginia group of whitetails varies from the small dark forms in Florida and the Southeastern States to the much larger and lighter-colored deer of the Northern and Rocky Mountain States. All varieties are suitable for propagation and should do well in their natural environment.

MULE DEER: The large-eared, forked-horned, round-tailed mule deer of the West (Odocoileus hemionus and varieties) range from the Mississippi Valley to the crest of the Sierra Nevada and Cascade Mountains and differ considerably in habits from the smaller white-tailed deer. They generally occupy more open and rugged country, and in many localities migrate regularly in early winter from the high mountains to the lower foothills or valleys. Like the white-tailed deer they are easily kept in captivity, and are especially suitable for the rough open country of their native range, where cover is scarce and food widely scattered. In winter they depend largely on browse and in summer on more succulent vegetation. Their favorite foods in summer are clovers and other leguminous plants and mushrooms, but even at that season they consume much browse and a great variety of other plants. In food requirements and rate of breeding, mule deer are similar to the whitetails. The venison, though generally considered just as good, is slightly coarser and darker. The several varieties are adapted to high cold sections, to the middle zones, and to the low hot valleys of the Southwest and Mexico.

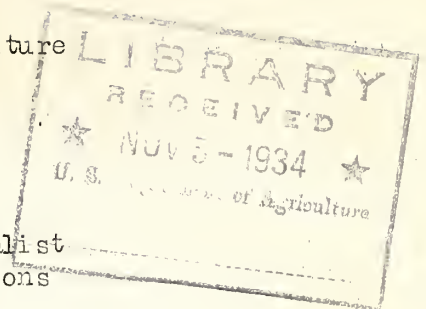
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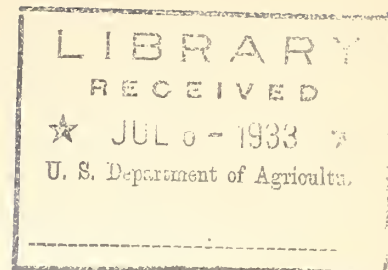
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UNITED STATES DEPARTMENT OF AGRICULTURE
Bureau of Biological Survey
Washington, D. C.

April 4, 1933.

Important
Amendment to instructions contained in
Bureau Memorandum No. Bi-1272

A memorandum has just been received from Dr. Stockberger reading as follows:

"April 3, 1933

MEMORANDUM FOR CHIEFS OF BUREAUS AND OFFICES:

"Instructions should be issued to all officers or employees, responsible for the initiation of leases involving the fiscal year 1934, to include the following stipulation in the specifications for all proposals requested:

"The successful bidder will be required to execute a lease containing the following provision:

"It is understood and agreed by and between the parties hereto that this lease may be terminated at any time during the fiscal year 1934 by 30 days notice in writing from the Secretary of Agriculture."

"In all cases where proposals have already been solicited, but award of contracts not yet made, it will be necessary for the responsible bureau official to obtain an acknowledgment, in writing, from the bidder recommended for acceptance, that the above stipulation may be incorporated in the proposed lease without objection on the part of the bidder.

"In connection with the renewal of existing leases, the foregoing provision in substance will be embodied in the renewal notice sent to the lessor. Such notices will be prepared so as to provide for the forwarding to the lessor of the original and one carbon copy. The carbon copy will be prepared so as to permit the execution by the lessor of an acknowledgment. When thus executed, this copy will be returned to the Department Real Estate Officer for filing.

"To prevent misunderstandings, and to insure that the information furnished all lessors and prospective bidders is identical so far as the statements contained are concerned, the attached memorandum has been prepared by the Real Estate Officer of the Department. Copies of this should be forwarded with proposals or with letters addressed to bidders or lessors. Additional copies may be obtained from Mr. H. A. Nelson."

W. W. Stockberger,

Director.

Enc.

The memorandum referred to in the last paragraph of Dr. Stockberger's memorandum reads:

" United States Department of Agriculture
Real Estate Officer

"Because the Federal Budget is at the moment in a transitional state and because of the likelihood that reductions in government expenditures will make necessary certain contractions in expense it is necessary for the Department of Agriculture to insert a thirty day termination clause in all leases and renewals of leases covering the fiscal year which ends June 30, 1934. While the department may be required to terminate a portion of the leases made, either because of the abandonment of particular projects or through the availability of space in Federal Buildings, the interests of the owners or agents of properties leased will be safeguarded in every possible way consistent with the interest of the Government.

H. A. Nelson
Real Estate Officer."

Complying with Dr. Stockberger's memorandum, in making the canvass as instructed in A and C, pages 5, 6, and 7, of Bureau Memorandum Bi-1272, each real estate owner or dealer, including the present lessor, asked to quote rentals for the fiscal year 1934, should be informed of the thirty day termination clause, which must be included in all leases and rental agreements or in renewals thereof for the fiscal year 1934. To this end, copy of H. A. Nelson's memorandum (see above) should be delivered to each such real estate owner or dealer.

If option to renew present lease or agreement is exercised the thirty day termination clause will be included in renewal, and present lessor should be so advised.

If new lease or agreement at lower rental is executed with present lessor (see B and C pages 6 and 7, Bureau Memorandum 1272) thirty day termination clause will be included in such new lease or agreement and present lessor should be advised to that effect.

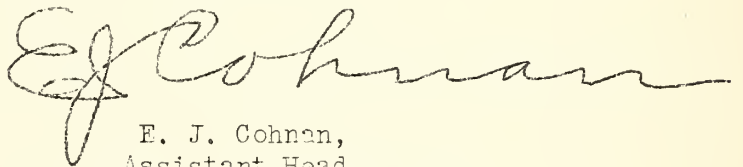
If a formal solicitation of bids is made (D, pages 7, 8, and 9, Bureau Memorandum 1272) in the specifications after stating the period for which the rental is required (see "4" under "Formal solicitation of bids," page 8, and the fourth paragraph of sample solicitation, page 9, of said memorandum) insert: "provided, that rental may be terminated at any time during the fiscal year 1934 by 30 days notice in writing from the Secretary of Agriculture. See attached statement from the Real Estate Officer of the U. S. Department of Agriculture." As indicated a copy of memorandum of the Real Estate Officer (H. A. Nelson) should accompany invitation to bid sent each real estate owner or agent.

If before this amendment to Bureau Memorandum Bi-1272 is received, canvass as instructed in A and C of said memorandum is in course of being made, all real estate owners or dealers, including present lessor, asked to submit prices on rentals, should immediately be informed of the thirty

day termination clause. If such canvass has been completed with result that justifies renewal of present lease or agreement, or execution with present lessor of new lease or agreement at reduced rental, the present lessor should be advised of the thirty day termination clause and asked if he consents to its inclusion in renewal of present lease or agreement, or in new lease or agreement to be executed at reduced rental. If he so consents, his written acknowledgment to that effect should be obtained over his signature. If he does not consent, it will be necessary to make a solicitation of bids containing the termination clause.

If before this amendment is received a formal solicitation of bids has been made but not completed, such solicitation should be cancelled and a new solicitation of bids containing the 30 day termination clause should be made. If solicitation has been completed and you are ready to make recommendation for acceptance, before making such recommendation, the bidder whose bid you propose to recommend for acceptance should be asked if he consents to the 30 day termination clause and if he does his signed written acknowledgment to that effect should accompany bids and recommendation to this office. If he does not consent to the termination clause a new solicitation containing it should be made.

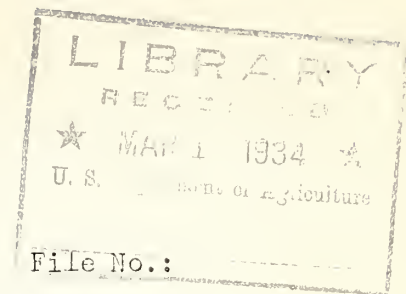
In the case of the renewal of an informal rental agreement, or the execution of a new agreement for the fiscal year 1934, where the annual rental does not exceed \$50 per year (see "Renewal where total rental to be paid for the fiscal year 1934 does not exceed \$50," page 2 Bureau Memorandum Bi-1272), the words "and terminable by either party in accordance with the laws of this State" should be lined out, and there should be substituted therefor the words "terminable at any time during the fiscal year 1934 by 30 days from the Government."



E. J. Cohnan,
Assistant Head,
Division of Administration.

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Form Bi-1275
April, 1933



CLASS:

SUBJECT:

TITLE:

REFUGE:

STATE:

COUNTY:

SCALE: 1:

; 1 inch =

DATE:

SIZE: Within neat lines, in. x in.; Trim lines, in. x in.

DEPARTMENT:

BUREAU:

DIVISION:

AUTHOR:

SOURCE:

COMPILED:

BASE:

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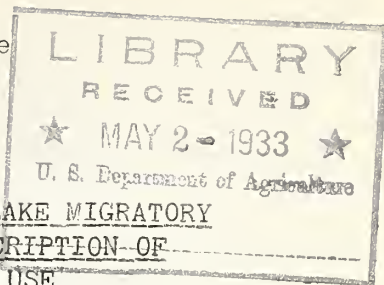
LONGITUDE:

PLAIN OR COLORED:

FORM:

STOCK:

United States Department of Agriculture
Bureau of Biological Survey



DESIGNATION OF RECREATIONAL AREAS IN THE CRESCENT LAKE MIGRATORY
BIRD REFUGE, GARDEN COUNTY, NEBRASKA, AND PRESCRIPTION OF
CONDITIONS GOVERNING THEIR OCCUPANCY AND USE

Under authority of regulations 1 and 7 of the regulations prescribed by the Secretary of Agriculture on May 7, 1930, for the administration of Federal wild-life refuges, the following areas in the Crescent Lake Migratory Bird Refuge, in Garden County, Nebraska, are hereby designated as recreational areas for the use of the public under the conditions hereinafter prescribed:

All the lands contiguous to Crane, Hackberry, and Island Lakes included within the following descriptions: For Crane Lake, NE $\frac{1}{4}$ NE $\frac{1}{4}$ sec. 10; W $\frac{1}{2}$ NW $\frac{1}{4}$, and NW $\frac{1}{4}$ SW $\frac{1}{4}$ sec. 11, T. 20 N., R. 44 W.; for Hackberry Lake, lot 7 and E $\frac{1}{2}$ SE $\frac{1}{4}$ sec. 6, and lot 1 sec. 7, T. 20 N., R. 44 W.; and E $\frac{1}{2}$ SE $\frac{1}{4}$ sec. 1, T. 20 N., R. 45 W. of the Sixth Principal Meridian; for Island Lake, E $\frac{1}{2}$ sec. 4, T. 20 N., R. 44 W. of the Sixth Principal Meridian.

1. Recreational areas.---Permit is not required for entrance upon and temporary occupancy of the above-described areas for the purpose of fishing, camping, and other nonhunting recreational uses: Provided, That persons entering the refuge shall not make camps except at sites designated by the supervisor or protector of the refuge; they shall start camp fires only when necessary and then only at such points as may be specified by such officer, and shall completely extinguish such fires when no longer needed, and shall smother with earth or extinguish with water all embers and beds so that there shall be no danger of reignition. Special care must be observed to prevent lighted matches, cigars, cigarettes, or pipe ashes from being dropped in grass or other inflammable material. Persons camping within recreational areas must keep camp sites in a clean and sanitary condition; they must burn combustible rubbish on camp fires, and place all other garbage and refuse either in garbage cans or in pits provided at the edge of the camps. Garbage or refuse must not be dumped in the lakes or in places on the refuge not designated therefor.

2. Private operations.---No person shall engage in any business, erect or maintain a building, or operate a boat or raft for hire, except under permit issued by the Chief of the Bureau of Biological Survey. Such permit shall be valid only for the period and uses specified therein, and shall be renewable only at the discretion of the chief of said bureau, who will establish such fees for permits or for renewals thereof as he shall deem proper. Permittees shall keep the boats and rafts they are authorized to operate for hire in good repair and in safe condition at all times.

3. Fees.--A person granted a permit to operate boats and rafts for hire under these regulations shall establish a schedule of rates of pay for the service on an hourly, half-day, and per diem basis, and shall submit such schedule to the Chief of the Bureau of Biological Survey for approval. The permittee shall publicly post such schedule of rates, when approved, in such manner and in such places as the supervisor or protector may direct.

4. Fishing.--Persons authorized to fish under the laws of the State of Nebraska may do so without permit in such lakes and waters of the refuge as are open to fishing under State law and regulation, either from boats or rafts or from lake shores within the above-designated recreational areas: Provided, That the use of live bait in taking or attempting to take fish in any of the waters of the refuge is prohibited; and Provided further, That no live fish, frogs, or turtles taken elsewhere shall be liberated in the waters of the refuge without a permit from the Chief of the Bureau of Biological Survey, except that permit is not required for planting game fish or game-fish fry by or under the direction of the Nebraska Game, Forestation, and Parks Commission or the United States Bureau of Fisheries.

5. Routes of travel.--Persons entering the refuge for permitted uses, including camping and fishing, shall use only such established routes of travel as may be designated from time to time by the supervisor or protector in charge.

6. Firearms and disturbance of wild life.--The carrying or being in possession of firearms on the refuge, and the unnecessary disturbance of wild life thereon, are prohibited.

7. Revocation of permits.--Any permit issued under these regulations may be terminated at any time by agreement between the issuing officer and the permittee; it may be revoked by the issuing officer for noncompliance with the terms thereof or of these regulations, for nonuse, or for violation of any law or regulation applicable to the reservation or of any State or Federal law or regulation protecting wild life, or the nests or eggs of birds; and it is subject at all times to discretionary revocation by the Secretary of Agriculture. Maintaining a nuisance by a permittee, operating a concession where disreputable activities are permitted, or charging in excess of approved rates for boats, rafts, or services, shall be sufficient cause for revocation of a permit.



Paul G. Redington
Chief, Bureau of Biological Survey.

Issued: April 6, 1933.

General regulations affecting the Crescent Lake Migratory Bird Refuge may be obtained from the Acting Supervisor, Mumper, Nebr.